City of Seattle
Department of Design, Construction and Land Use
**CLIENT ASSISTANCE MEMO**

**504**

# Side Sewer Site Plan Requirements

June 2003

## What is a Side Sewer Site Plan?

A side sewer site plan represents a scaled drawing or map delineating the construction work done on a site under a side sewer permit. A site plan is required for new service, additions, alterations, repairs, capping, conditional, and temporary side sewer work.

The information drawn on the side sewer site plan will be used to update the City of Seattle Drainage and Wastewater computer mapping system (also called a geographic information system or "GIS").

DCLU permit staff will provide the permit holder with a side sewer site plan template at a scale of 1" = 20'. (NOTE: For larger sites, may use 1" = 50', as appropriate.) This template map will show the data stored in the geographic information system, including:

- existing side sewer and mainline infrastructure
- property lines
- site address
- building roof outlines *(NOTE: This is not the building foundation footprint)*
- building foundation lines, or "footprints" (where available)
- edge of pavement (within the right-of-way only)

At the time of the side sewer inspection, the DCLU inspector will check to ensure that the site plan drawing prepared by the permit holder is accurate and complete. If not, the inspector may require the permit holder to correct the drawing. For this reason, it is recommended that the update of the drawing be prepared using red and blue colored pencils. If you are not sure what to call a feature, or how to label it, you should check with the inspector for guidance.

An architectural site plan or engineering drainage/utility plan may be used as the side sewer site plan template. It is recognized that the building outline and other features represent a more accurate picture of the new construction. On the plans, the following information must be provided:

- Full-size sheet used. (No partial sheets shall be used for as-built.)
- Existing side sewer and mainline infrastructure accurately transferred from the side sewer site plan template.
- The side sewer information has been *accurately* and *clearly* delineated on the site plan. The plan will not be accepted if the as-built information cannot be read due to the poor quality of the as-built information *or* the fact that the site plan contains so much information that it makes drafting the data onto the plan difficult.
- Measurements in the public place shall be noted on the site plan if construction has occurred in the public place.
- Street address and application/permit numbers noted on plan.

**For information on how to apply for a side sewer permit or schedule an inspection, see Client Assistance Memo (CAM) 503, "Side Sewer Permits in Seattle."**

## What Features Should Be Drawn on the Side Sewer Site Plan?

The following features must be drawn on the side sewer site plan by the permit holder, with the labels indicated:

### 1. SEWER AND DRAINAGE PIPES

1.1. Drawn in color according to the USE of the pipe:

Drainage - drawn in blue pencil
Sewerage - drawn in red pencil

1.2. Labeled with the DIAMETER of the pipe (in inches). *NOTE: Unless otherwise labeled, pipe*

*is assumed to be 6" in diameter for lateral pipe in public right-of-way and 4" diameter for lateral pipe on private property.*

1.3. Labeled with the MATERIAL of the pipe:

| | |
|---|---|
| ABS | Acrylonitrile Butadiene Styrene |
| CFP | Corrugated Flexible Plastic |
| CIP | Cast Iron Pipe |
| CMP | Corrugated Metal Pipe |
| CON | Concrete |
| CRP | Corrugated Rigid Plastic |
| DIP | Ductile Iron Pipe |
| HDP | High Density Polyethylene |
| PVC | Polyvinyl Chloride<br>*NOTE: If not labeled, PVC will be assumed for newly constructed pipes.* |
| RCP | Reinforced Concrete Pipe |

1.4. Labeled with the STATUS of the pipe:

| | |
|---|---|
| ABA | Abandoned (left buried in place) |
| ACT | Active<br>*NOTE: Pipes are assumed to be "active" unless otherwise labeled.* |
| REM | Removed from ground.<br>*NOTE: The preferred alternative is to draw a series of Xs along the length of the removed pipe.* |

## 2. DITCHES

2.1. Drawn in blue pencil. Labeled DCH.

## 3. CULVERTS

3.1. Drawn in blue pencil. Labeled CUL.

## 4. STREAMS

4.1. Drawn in blue pencil. Labeled STRM.

## 5. INFILTRATION PITS (or "rock pockets")

5.1. Labeled 'PIT'

5.2. Labeled with DIMENSIONS (for example - 6' 6" x 10' 8")

## 6. SEPTIC TANKS

6.1. Labeled 'SPT'

6.2. Labeled with DIMENSIONS

## 7. POINTS ALONG PIPE

Labeled using point-numbers or code-letters corresponding with a legend box indicates the definitions of each number or letter. *(NOTE: Do not put the description on the plan—use the legend box, as shown.*)

| | | |
|---|---|---|
| 7.1. | Cap or plug | CAP |
| 7.2. | Catch basin | CB<br>FCB - flow control catch basin |
| 7.3. | Cleanout | CO<br>SCO - surface cleanout |
| 7.4. | Culvert inflow | CUI |
| 7.5. | Culvert outflow | CUO |
| 7.6. | Downspout | DSP |
| 7.7. | Drain | AD - Area, area way, or driveway drain<br>YD - Yard drain |
| 7.8. | Rubber Coupler | RBC - "Fernco", etc. |
| 7.9. | Reducer | RED |
| 7.10. | Inlet | INL |
| 7.11. | Junction box | JB |
| 7.12. | Maintenance hole | MH<br>CMH - Catch Basin MH<br>DCN - Drop Connection<br>DMH - Drop MH<br>FCM - Flow Control MH<br>MH - Junction Box MH<br>OF - Overflow MH<br>PMH - Pump MH |
| 7.13. | Oil Separator | SEP |
| 7.14. | Outfall | OUT |
| 7.15. | Pump | PMP |
| 7.16. | Stack Plumbing | SP |
| 7.17. | Vertical Bend | VB - vertical bend *(NOTE: Indicate degree of bend)* |

## 8. CONNECTIONS TO MAINLINE (if made)

8.1. A measurement of the DISTANCE (in feet) TO THE DOWNSTREAM MAINTENANCE HOLE will be taken by the Seattle Public Utilities (SPU) maintenance crew, at the time of the connection for 1) a new core tap or 2) if the measurement does not appear on the template map. It is the

responsibility of the permit holder to record this measure on the template map.

*NOTE: This measurement begins at the nearest downstream maintenance hole's centerpoint of channel, follows the path of the mainline upstream and ends at the centerpoint of the service lateral connection to the mainline. The measurement shall be rounded to the nearest whole foot.*

**9. SIDE SEWER LINE INTERSECTION WITH THE PROPERTY LINE *(or "crossing point" if exposed)***

9.1. A measurement of the DEPTH FROM SURFACE (in feet) must be taken by the permit holder and entered onto the permit holder's side sewer site plan template map.

*NOTE The "depth from surface" measurement is taken at the actual point of side sewer line intersection with the property line and is measured from the approximated finished grade, vertically down to the top of the side sewer line. This measurement will be provided in feet and 10$^{th}$ of feet.*

9.2. A measurement of the DISTANCE TO DOWNSTREAM MAINTENANCE HOLE must be taken by the permit holder and entered onto the permit holder's side sewer site plan template map. The DCLU inspector may verify some or all the dimensions as required.

*NOTE: This linear measurement begins at the nearest downstream maintenance hole's centerpoint of channel, follows the path of the mainline upstream and ends a the point along the mainline whereby an imaginary perpendicular projected line would intersect the actual side sewer lines crossing of the property line.*

### Correcting Mistakes on Existing Infrastructure

The permit holder may discover that the information stored in the geographic information system, as displayed on the side sewer site plan template map, is incorrect or incomplete. At his or her own discretion, the permit holder may note such errors or omissions on the template map.

The DCLU inspector will verify any such corrections to infrastructure which are listed in the section on page 1 titled, "What Features Should Be Drawn on the Side Sewer Site Plan?"

The SPU geographic information system maintenance staff will update the side sewer mapping data, thus improving the information in the system for future use by property owners, contractors, and others users.

## Guidelines for Preparing a Sewer/ Drainage Site Plan

**STEP 1: Determine the location of all features to be shown on the Side Sewer Site Plan drawing.** *(NOTE: For a complete list of required features and required labels, please refer to pgs. 1-2.)*

Measurements should be taken on the site based on distances from features which are shown on the side sewer site plan template map. Because the features on the template map vary in their level of accuracy, please review the following guidelines to determine how best to make the measurements in your particular situation.

1. The existing side sewer infrastructure is generally of the lowest accuracy of the features from the geographic information system which are shown on the template map. Nevertheless, **for spot or inline repairs, alterations, capping, or the re-routing of a portion of a pipe run, it is best to measure from a reference point such as a building corner or the nearest manhole.** Measuring from other features will often lead to improper placement relative to the existing infrastructure and to the need to re-draft the existing infrastructure.
2. **For new services or completely new pipe runs, it is recommended that measurements be taken from the property lines, from the building outline, or from the nearest manhole** (which is generally located only in the public right-of-way). These layers are generally of much greater accuracy.
3. The building foundation lines, where available, are very accurate for construction since 2002, but are of varying accuracy prior to that.

In order to make these measurements, you will have to locate your property lines on the ground. It is preferable that measurements are made from the building foundation corner or from the nearest manhole. Measuring is best done by two people, using measuring tape long enough to avoid dividing each measured length into several segments or a measuring wheel which can be done by one person. (A 25-foot or 50-foot tape is generally sufficient.) Be sure to hold the tape level and measure perpendicularly to the property line or feature being measured. It is easiest to record all measure-

ments on a sketch plan at the time you are doing the measuring and then later transfer all the information onto the side sewer as-built template map.

### STEP 2: Draw the Side Sewer Site Plan.

After all of the information has been obtained, you are ready to transfer your notes or sketched information onto the side sewer site plan template map. The scale of the template map is fixed at 1" – 20'. (Note: For larger sites, may use 1" = 50', as appropriate.) The "scale" or the drawing or map indicates how many inches on the map equals a given length on the actual property. Thus one inch on the map will be equal to 20 feet on the property. So a 50' x 100' lot will appear on the map as a 2 ½" x 5" rectangle.

The preparation of this drawing can be aided by using a tool called an "engineer's scale". This tool basically resemble a ruler except that instead of being divided into inches, a given length can be measured directly by reading the markings on the scale. An engineer's scale measures 1" = 10', 1" = 20', 1" = 40', 1" = 50' and 1" = 60'. For the preparation of the side sewer site plan drawing at 1" = 20', the face of the scale marked "20" would be used. The length between each mark on the "20" scale would be equal to one foot on the ground. Inexpensive engineer's scales can be purchased at drafting supply stores, and some bookstores and stationery stores, usually for about $2.00 to $5.00.

If you decide to use a common ruler, which usually divides each inch into 8, 16, or 32 segments, be aware that each ½ inch on the scale is equal to 10 feet on the ground, so each ¼" is equal to 5 feet on the ground, 1/8" = 2 ½', 1/16" = 1 ¼', etc.

*NOTE: If you have an architect's scale, which is useful for drawings at scales such as 1/8" = 1', or 3/16" = 1', it is best to use the face marked "16" which is equivalent to a common ruler divided into 16 segments.*

The next task is to draw the new or changed infrastructure onto the side sewer as-built template. Please refer to **Figures 1, 2** and **3** at the end of this document for examples. Laying out all of the pipes first is usually best. The standard convention of using a red pencil for the sanitary and combined pipes and a blue pencil for the drainage pipes will make the drawing easier to read and save you the trouble of labeling the pipe segments for their "use".

Remember that the ends of the pipe that connect to the buildings (at down spouts, stack plumbing, etc.) will extend *inside* the gray area which describes the building roof outline, since the pipes terminate within the overhang of the roof.

Once the pipes have been drawn, the other features can be labeled. It is advised that you use a sharp #2 pencil for the labeling and write legibly in capital letters. All of the infrastructure features that have to be located and labeled are listed in the section on pages 1 and 2 titled "What Features Should Be Drawn on the Side Sewer Site Plan?"

## Definition of Terms

**As-Built** (of the side sewer and/or service drain): See definition of side sewer site plan below.

**Drainage**: Includes stormwater, snow melt, surface water, surface and irrigation runoff, and water from footing drains and other drains installed in compliance with Seattle's Stormwater, Grading and Drainage Control Code and rules which are incorporated in this code. Other water which is not an illicit discharge shall be considered drainage if it drains from the exterior of a building or structure, a pervious or impervious surface, or undeveloped land or by surface or shallow subsurface flow.

**Mainline:** A pipe which is part of the public sewer or drainage system, and to which a side sewer is connected.

**Permit holder:** The person, business, or agency to whom a permit is granted.

**Side sewer:** A side sewer used to convey on-site sewage to a public sewer main or public combined sewer main. Side sewer is also defined to include both side sewers and service drains.

**Service drain:** A side sewer used to convey on-site drainage to a public combined sewer or public storm drain.

**Side Sewer Site Plan:** The documentation by the applicant and/or side sewer contractor of the side sewer facilities that were installed under the permit.

**Side Sewer Site Plan Template Map:** The map provided by DCLU to the permit holder at the permit counter at the time a side sewer permit is granted, and on which the side sewer site plan is drafted by the permit holder.

**Site Plan:** The plan which is used in place of the side sewer site plan template map.

## Sample Side Sewer Site Plans

Illustrated samples of side sewer site plans are included on the next few pages. **Figure 1** shows how to take the three measurements in the public right-of-way, which are to be recorded on side sewer site plan. **Figure 2** shows the required elements of a side sewer site plan, using the template provided with the side sewer permit. **Figure 3** shows how to prepare a side sewer site plan when a building site plan is available.

## Key Side Sewer Contacts

**Application Information:** Contact the DCLU Drainage & Sewer Review Desk at (206) 684-5362 or visit www.cityofseattle.net/dclu/sidesewer.

**Scheduling Inspections:** Call the DCLU Inspection Request Line at (206) 684-8900 or read CAM 503.

**Technical Information:** Send an email to sidesewerinfo@seattle.gov or contact the most pertinent listing below:

- DCLU Drainage & Sewer Review Desk, (206) 684-5362
- SPU Core Tap, (206) 615-0511
- SDOT Street Restoration
  - Street Use Counter, (206) 684-5283
  - Street Use Inspection:
    North - (206) 684-5271
    South - (206) 684- 0989

## Access to Information

Links to electronic versions of DCLU **Client Assistance Memos (CAMs), codes**, and **forms** are available on the "Publications" and "Codes" pages of our website at **www.cityofseattle.net/dclu.** Paper copies of these documents are available from our Public Resource Center, located on the 20th floor of Key Tower at 700 Fifth Avenue in downtown Seattle, (206) 684-8467.

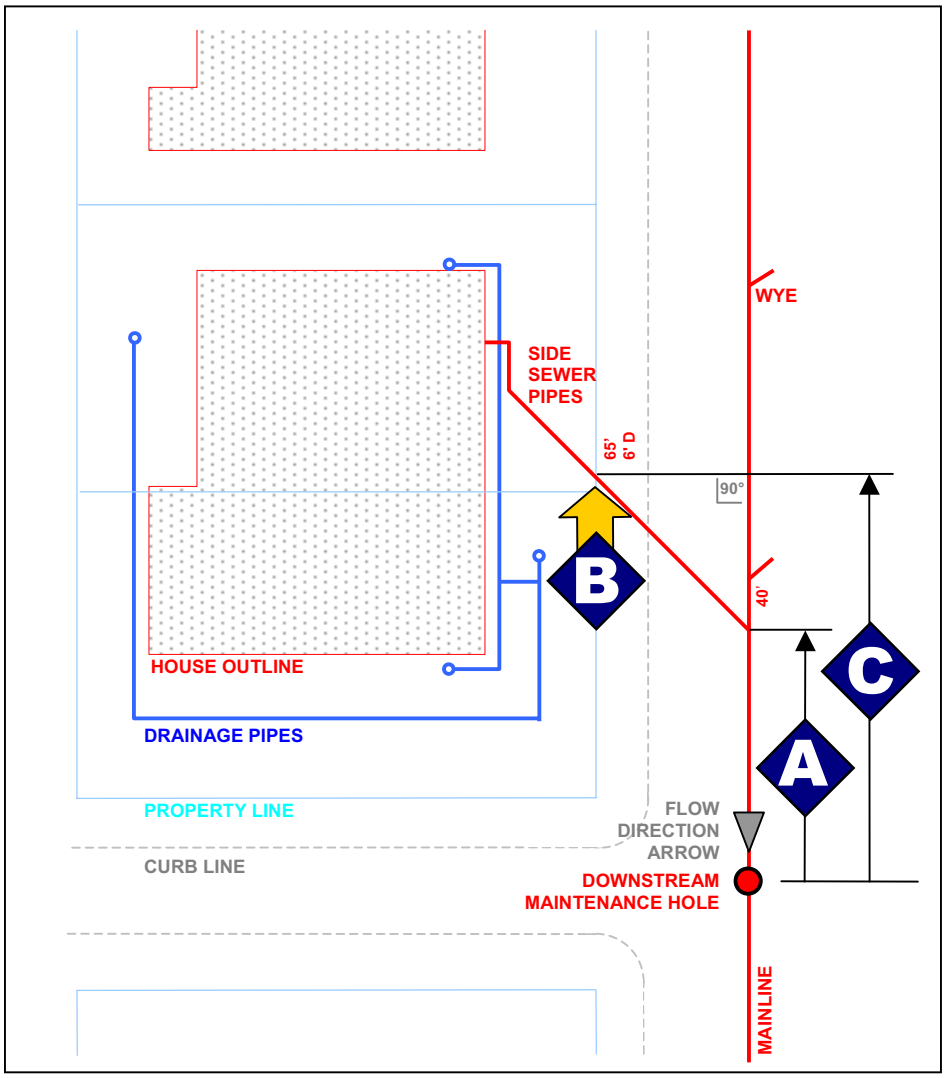



**Figure 1: Right-of-Way Measurements**

## Right-of-Way Measurements

These measurements should be made with particular care because they help construction and repair crews to locate pipe in the public right-of-way.

**A** At the location where any **SIDE SEWER CONNECTS TO A MAINLINE,** measure the **distance to the nearest downstream maintenance hole (MH)** as follows:

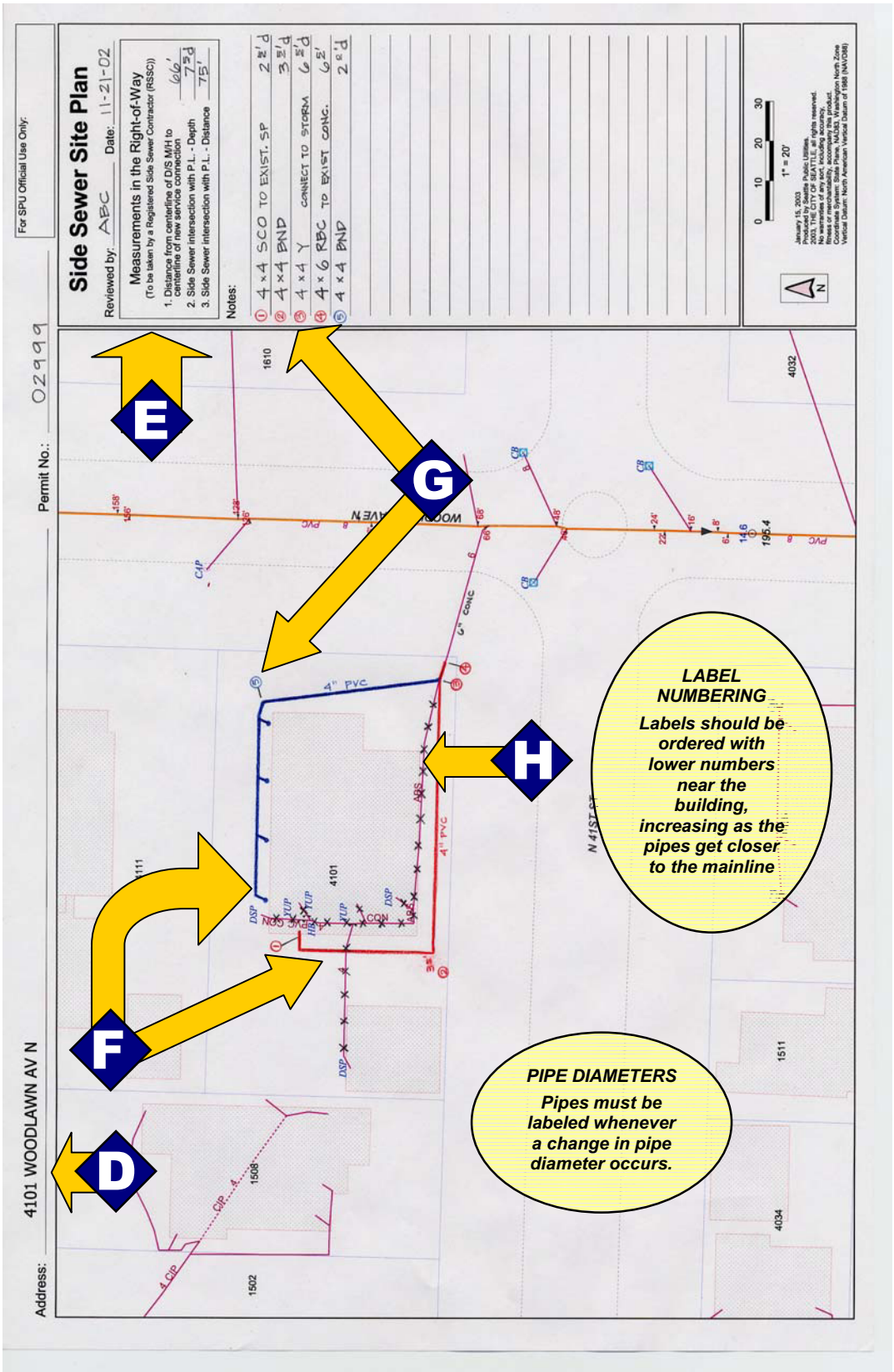
1. Start measuring at the nearest downstream MH.
2. Center the measuring tape at the centerpoint of the channel.
3. Measure along the path of the pipe.
4. Stop measuring at the centerpoint of the side sewer connection to the mainline.

**B** At the location where any **SIDE SEWER PIPE CROSSES THE PROPERTY LINE,** measure the **depth from surface** as follows:

1. Measure from the approximate finished grade down to the top of the side sewer pipe.

**C** Also at the location where any **SIDE SEWER PIPE CROSSES THE PROPERTY LINE,** measure the **distance to the nearest downstream maintenance hole (MH)** as follows:

1. Start measuring at the nearest downstream MH, with the measuring tape at the centerpoint of the channel.
2. Measure along the path of the pipe.
3. Stop measuring at the point on the mainline pipe where an imaginary perpendicular line, projected from the mainline pipe toward the property, would meet the centerpoint of the side sewer pipe as it crosses the property line.




## Required Site Plan Elements

**D** **Address**

**E** **Permit Number, Date, Right-of-Way Measurements**

**F** **Side Sewer Pipes**

Draw pipes in red or blue to indicate the pipe USE.

——— **sanitary pipe**

——— **drainage pipe**

**G** **Labels**

- The **pipes** must be labeled with DIAMETER and MATERIAL.
- The **points along the pipe** must be labeled with the TYPE of point (e.g. clean out, cap, drain, etc.) and the DIAMETER (where applicable) of the point.
- If there is insufficient space on the map for some or all of the labels, they should be listed in the "Applicant Notes" area to the right of the map. Use a pair of circled numbers, one on the map with a leader pointing at the location of the feature, and one in the "Applicant Notes" section where the type and diameter are listed.
- Label **depth** measurement in "Applicant Notes", even when no fitting is called out (such as at a bend).
- **Print legibly.**

**H** **Abandoned or removed pipes**

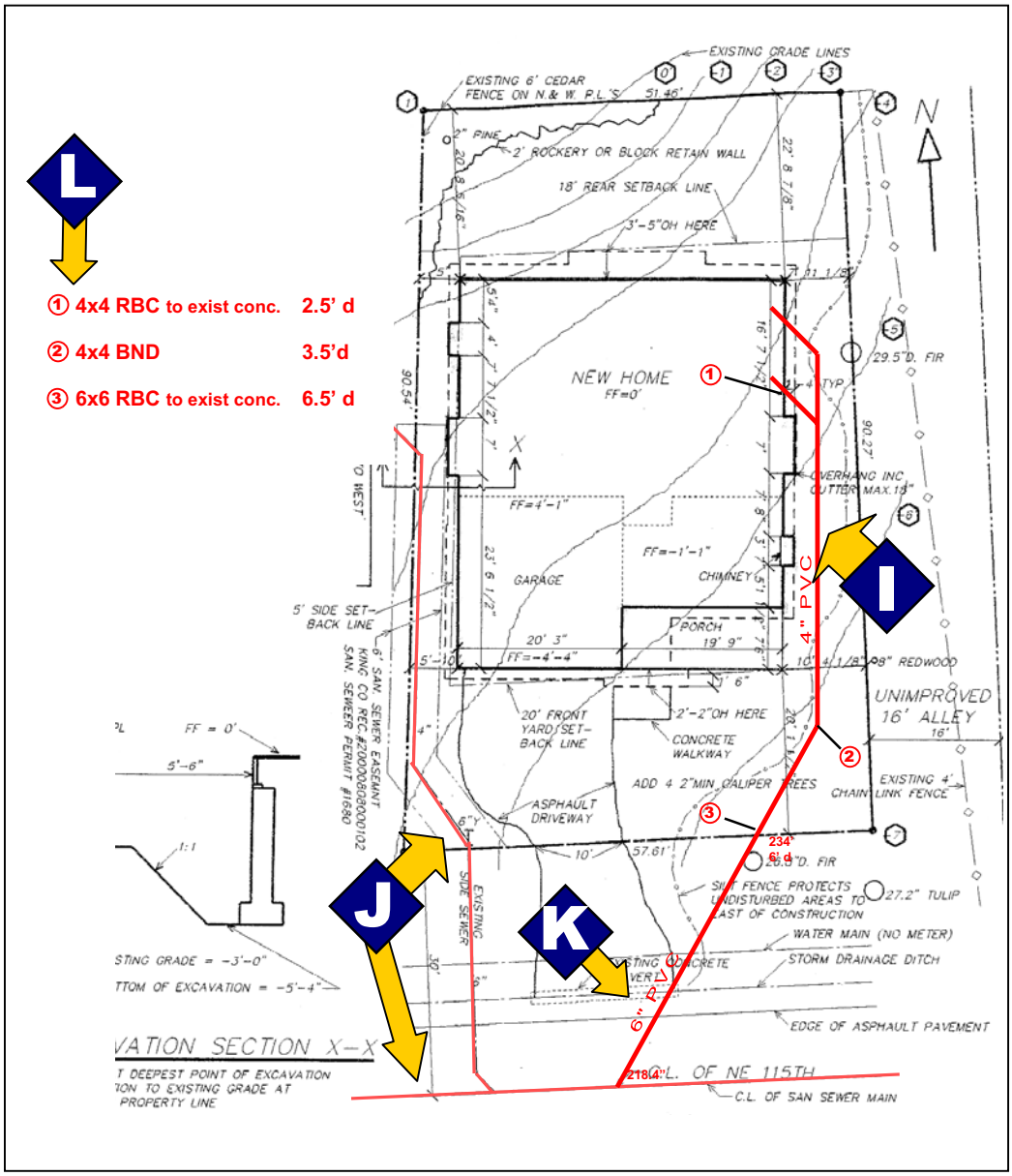
These should be labeled on the map as follows:

—X—X— **removed**

——————— **abandoned**

**ABAN**

**Figure 2: Required Site Plan Elements**




## Side Sewer Site Plan for New Construction

These instructions only apply if the permittee has an accurate Building Site Plan (sample shown at left).

Use the Building Site Plan in combination with the Side Sewer Site Plan (sample shown in Figure 2) in order to provide the following information:

- Address
- Permit Number
- Date
- Right-of-Way Measurements

### Side Sewer Pipes

**I** Draw new or repaired side sewer pipes on the Building Site Plan.

**J** Location of existing pipes (shown on the Side Sewer Site Plan supplied with the permit) which are incorrect, missing, abandoned, etc., can be added or corrected on either document.

### Labels

Label pipes with DIAMETER and MATERIAL. Label points along the pipe with the TYPE, the DIAMETER (where applicable), and the DEPTH (wherever it has been measured). (More details on labeling have been included in Figure 2.)

**K** 1. Labels can be placed adjacent to the pipes on the page.

**L** 2. Alternately, labels can be placed in the margins of the Building Site Plan.

**G** 3. The "Notes" section of the Side Sewer Site Plan (see Figure 2) can be used for labeling, as well.

### Abandoned or Removed Pipes

These indications can be made on either the Building Site Plan or the Side Sewer Site Plan. (Example shown on Figure 2.)

**H** —X—X— **removed**

———— **abandoned**

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**Figure 3: Side Sewer Site Plan for New Construction**